

10/518341

DT01 Rec'd PCT/PTC 17 DEC 2004

IN THE CLAIMS

1. (amended): A method for *ex vivo* diagnosis of an MHC class II haplotype-specific immune response[[s]] to an H-RSV antigen[[s]] in a subject, ~~wherein the method comprises~~ comprising the steps of:

- (a) determining the MHC class II haplotype of the subject;
- ~~(b) providing a composition comprising peripheral blood mononuclear cells (PBMC's) from the subject;~~

[[(c)] (b) incubating mixing the composition comprising peripheral blood mononuclear cells (PBMC's) from the subject with a peptide comprising any one or more of [[an]] amino acid sequences selected from Table I designated SEQ ID NO:3 - SEQ ID NO:24, that matches wherein the amino acid sequence is known to be presented by the MHC class II molecules haplotype of the subject as indicated in accordance with Table 1, said incubating being under conditions wherein proliferation of, and/or cytokine production by, PBMC's is induced; and, [[(d)] (c) assaying determining the proliferation and/or cytokine production of the PBMC's.

2. (amended): A method according to claim 1, wherein in step [[(d)] (c) the proliferation of, or cytokine production by, T cells is assayed determined.

3. (amended): A method according to claim 2, wherein the T cell proliferation or cytokine production of T cells is assayed determined without pre-expansion of the T cells.

4. (amended): A method according to claim[[s]] 2 [[or 3], wherein cell proliferation of, or cytokine production by, CD4⁺ T cells is assayed determined.

5. (amended): A method according to claim 4, wherein the proliferation of CD4⁺ T cells is cytokine assayed is determined by measuring IFN- γ production.

6. (amended): A method according to claim 5, wherein IFN- γ production is measured in an (direct) Elispot assay.

7. (amended): A method according to ~~any one of claims 1—6~~ claim 1, wherein in step (b) [[(c)] the peptide is incubated mixed with the preparation of PBMC's at a concentration of a least 5 nM.

8. (amended): A method according to ~~any one of claims 1-7~~, claim 1, wherein

(a) the subject is one who:

(i) is or was infected with H-RSV or

(ii) has been vaccinated against H-RSV; and

(b) an immune response[[s] to an H-RSV antigen[[s] is measured determined in a subject undergoing or having undergone an infection with H-RSV.

9. (amended): A method according to ~~any one of claims 1-7~~ claim 8, wherein the ~~immune responses to H-RSV antigens is determined in a~~ subject has been vaccinated against H-RSV.

10. (amended): ~~Use of~~ A method according to ~~claim 1-7~~, to evaluate ~~correlates the correlation of protection against H-RSV infection with vaccination in a subject, vaccinated individuals comprising~~

(a) measuring a response of proliferation or cytokine production to an H-RSV peptide of the subject's PBMC's according to claim 1,

(b) examining the vaccination status of the subject, and

(c) correlating said response in (a) with said vaccination status in (b).

11. (amended): A method for ~~immunizing MHC class II haplotype-specific vaccination of~~ a subject against an H-RSV antigen in an MHC class II haplotype-specific manner, ~~the method comprising the steps of:~~

(a) determining the MHC class II haplotype of the subject; and,

(b) administering to the subject an immunogenic pharmaceutical composition comprising a peptide comprising any one or more of amino acid sequences selected from designated SEQ ID NO:3 – SEQ ID NO:24, whereby wherein the amino acid sequence ~~matches is known to be presented by~~ the MHC class II molecules haplotype of the subject as indicated in accordance with Table 1,

thereby immunizing the subject in said MHC class II haplotype-specific manner.

12. (amended): A method according to claim 11, wherein the ~~pharmaceutical composition~~ is:

(a) formulated suitable for parenteral administration and is administered parenterally, ~~or wherein~~

(b) ~~the pharmaceutical composition is~~ formulated suitable for transdermal administration and is administered transdermally.

13. (amended): A method for Use of a peptide comprising an amino acid sequence selected from Table 1, for the manufacture of a vaccine for MHC class II haplotype specific prophylaxis or therapy of preventing or treating H-RSV infection in a subject, comprising, before or during said infection, immunizing the subject in accordance with claim 11, thereby preventing or treating said infection whereby the amino acid sequence matches the MHC class II haplotype of the subject in accordance with Table 1.

14. (amended): The method A-use according to claim 13 wherein the immunogenic vaccine is a pharmaceutical composition is formulated suitable for parenteral or transdermal administration.

15. (new) A method according to claim 3, wherein proliferation of, or cytokine production by, CD4⁺ T cells is assayed.

16. (new): A method according to claim 15, wherein the cytokine assayed is IFN- γ .

17. (new): A method according to claim 3, wherein

- (a) the subject is one who:
 - (i) is or was infected with H-RSV or
 - (ii) has been vaccinated against H-RSV, and
- (b) an immune response to an H-RSV antigen is measured.

18. (new): A method according to claim 17, wherein subject has been vaccinated against H-RSV.

19. (new): A method according to claim 5, wherein

- (a) the subject is one who:
 - (i) is or was infected with H-RSV or
 - (ii) has been vaccinated against H-RSV, and
- (b) an immune response to an H-RSV antigen is measured.

20. (new): A method according to claim 19, wherein subject has been vaccinated against H-RSV.